AUSTRALIAN ENTOMOLOGICAL SOCIETY

NEWS BULLETIN

Volume 10, Part 2, May 1974

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NEWS BULLETIN, VOLUME 10 PART 2, MAY 1974

Contents *Page*

Is There a White Spot? 20

Questionnaire on Legislation 20

Executive Report 20

New Members 21
Death 22
Resignations 22
Cessations of Membership 22
Changes of Address 22

Student Award 1974-75 23

Entomological News around Australia

Western Australia 24
South Australia 25
Tasmania 25
Victoria 26
Australian Capital Territory 27
New South Wales 28
Queensland 29
Papua New Guinea 29

News from Affiliated Societies

Entomological Society of Queensland 30

Appeals for Material and Information 30, 31

New Publication 31

A Note on *Temnoplectron diversicolle* 32

Coleoptera from Iron Range (Part III) 32

Grassland Invertebrates Conference 34

Book Reviews 35

IS THERE A WHITE SPOT?

If there is a white spot on the top right-hand corner of your Bulletin we have not yet received your subscription for 1974 - please send it to the Treasurer as soon as possible, to help to keep down the Society's costs. If there are two white spots you have not paid for 1973 either - you are no longer receiving the Journal, and this will be the last Bulletin that will be mailed until your subscription is received.

N.B. Students must pay by 30 June to be eligible for the concessional subscription rate.

QUESTIONNAIRE ON LEGISLATION

Members resident in Australia and Papua New Guinea were recently sent copies of a questionnaire concerning their views on Customs Regulation 13A. This questionnaire is not directed specifically to any one group of members, such as taxonomists. Whatever aspect of entomology is of major interest to you, please let the Society have your views on this important matter.

EXECUTIVE REPORT

MEETINGS:

The Executive met on 12 February, 14 March, 4 April and 9 May.

MEMBERSHIP:

Since the last report, 13 new members have been elected; there were eight cessations of membership, three resignations and one death. Total membership stands at 498. As there is a substantial number of applications in hand, the Executive confidently expects that membership will pass the 500 mark at its June meeting. The geographical distribution of members is as follows:

NSW	102	VIC	65	TAS	23
QLD	103	SA	38	WA	21
ACT	85	PNG	20	NT	4
Overseas	35	Address unknown	2		

STUDENT AWARD:

The Executive decided to offer a further Student Award for essays by undergraduate or honours students in entomology. Details are given elsewhere in this Bulletin.

INSECT EXPORT RESTRICTIONS:

The Executive received a considerable number of articles and letters on the subject of Customs Regulation 13A. Copies of these, and of a questionnaire, were sent in early May to all members resident in Australia and Papua New Guinea. Dr. M.T. Tanton, of the Department of Forestry, A.N.U., has kindly agreed to act as Returning Officer for the survey of members' opinions.

NEW APPOINTMENT:

The Executive is pleased to announce that Mr. K.C. Binnington has accepted appointment as Assistant Business Manager.

NEW MEMBERS:

We welcome the following new members:

Elected 12 February 1974

Dr. W.G. Vogt, Rose St., Murrumbateman, N.S.W. 2692. Dr. Vogt is a Research Scientist with CSIRO Division of Entomology, and works on population genetics and ecology of the sheep blowfly.

Elected 14 March 1974

Mr. D.L. Binns, Garran Hall, Australian National University, P.O. Box 813, Canberra City, A.C.T. 2601. Mr. Binns is a science student with a hobby interest in Lepidoptera and Cicadidae.

Miss A.A. Burrows, C/- Department of Entomology, University of Queensland, St. Lucia, Qld. 4067. Miss Burrows is a post-graduate student in the Department, and intends to work on radiation control of insect pests.

Mr. D.E. Havenstein, C/- CSIRO Division of Entomology, Murrumbateman, N.S.W. 2692. Mr. Havenstein is a Senior Technical Officer in the CSIRO Division of Entomology, and has interests in natural history, especially entomology.

Mr. K.J. Lambkin, 15 View St., Paddington, Qld. 4064. Mr. Lambkin is a science student at the University of Queensland, and is interested in insect phylogeny.

Mr. D.J. Rogers, Department of Entomology, University of Queensland, St. Lucia, Qld. 4067. Mr. Rogers works on insect - host plant interactions.

Elected 4 April 1974

Mr. E.C. Dahms, Queensland Museum, Fortitude Valley, Brisbane, Qld. 4006. Mr. Dahms is Curator of Entomology, and specializes in Hymenoptera.

Mr. G. Donnelly, address at present unknown (Alan Fletcher Research Stn., P.O. Box 36, Sherwood, Qld. 4075, at time of application for membership).

Mr. R.J. Patterson, 31 Torrens Ave., Klemzig, S.A. 5087. Mr. Patterson is a stockman - drover, and collects Dermaptera, Grylloidea, Plecoptera, Megaloptera and Microlepidoptera.

Dr. D. Venters, P.O. Box 148, Boroko, Papua New Guinea. Dr. Venters is a Senior Entomologist in the Papua New Guinea Malaria Service, and has published on the systemic action of drugs in mosquitoes.

Elected 9 May 1974

Mr. J.K. Guyomar, 789 Grassdale Rd., Gumdale, Qld. 4154. Mr. Guyomar studies Lepidoptera and their parasites.

Dr. T.F. Houston, C/- South Australian Museum, North Terrace, Adelaide, S.A. 5000. Dr. Houston is Curator of Reptiles and Amphibians in the South Australian Museum. He is also interested in the taxonomy and ethology of Apoidea and has published on the nesting behaviour of native bees.

Mr. J. Toop, 14 Prince St., Morningside, Qld. 4170. Mr. Toop is a Ph.D. student at the University of Queensland, and is investigating the genetic fitness of the Australian sheep blowfly, *Lucilia cuprina*.

DEATH:

The Executive recorded, with deep regret, the death of a Foundation Member, Mr. W.A. Smith of Brisbane.

RESIGNATIONS:

Dr. L.R.G. Cannon of Brisbane, Qld.
Miss E.M. Craddock of Drummoyne, N.S.W.
Dr. A.J. Muirhead of Tenterden, Kent, England.

CESSATIONS OF MEMBERSHIP:

The following ceased membership under Clause 22(c) of the Constitution:

Mrs. D. Clyne (Turramurra, N.S.W.); Mr. A.D. Crowhurst (Waverley, N.S.W.); Mrs. J.M. Garde (Warwick, Qld.); Mr. R.H. Hardie (Armidale, N.S.W.); Mr. W.R. Hein (Pallamana, S.A.); Dr. H.I. Jones (Brisbane, Qld.); Mr. R.W. Steele (Canada); Dr. R.T. Williams (Canberra, A.C.T.).

CHANGES OF ADDRESS:

(State of previous residence shown in brackets)

Barber, Mr. I.A. P.O. Box 692, Griffith, N.S.W. 2680. (P.N.G.)

Cantrell, Mr. B.K. 25 Willis St., Ekibin, Qld. 4121. (Qld.)
Hall, Mr. M.J. P.O. Box 664, Traralgon, Vic. 3844. (Vic.)
Miles, Dr. P.W. Entomology Dept., Waite Agricultural Research Institute, Glen Osmond, S.A. 5064. (Overseas)
Schicha, Dr. E. Bathurst Agricultural Research Station, Bathurst, N.S.W. 2795. (N.S.W.)
Short, Dr. J.R.T. Dept. of Zoology, A.N.U., P.O. Box 4, Canberra, A.C.T. 2600. (A.C.T.)
Smith, Mrs. S.L. 31 Pohlman St., Latham, A.C.T. 2615. (P.N.G.)
Walters, Mr. P. 26 Crowgey St., Rydalmere, N.S.W. 2116. (N.S.W.)

STUDENT AWARD 1974-75

The Society's Student Award for 1974-75 will take the form of an essay competition for which first and second prizes of $150 and $50 respectively are offered.

1. *Nature of Entry*

Entries, which should not exceed 5,000 words in length, may deal with any one of the following topics:

The social insects: are they the most successful exponents of communal life?

Is the taxonomic study of insects necessary in this day and age?

The importance of entomology in a developing country.

The emergence of native Australian insects as pests.

2. *Conditions of Entry*

(a) Entrants should be undergraduate or honours students at an Australian university or college.

(b) Students intending to submit an entry must advise the Society of their intention to do so not later than 31 October 1974, and indicate the title selected.

(c) Three copies of each entry, typed on A4 or quarto paper, should be submitted not later than 31 December 1974. No entry will be accepted after that date.

(d) Each entry should be accompanied by a signed statement of the student's age, course of study, his current academic status, and the name of the institution at which he is studying.

3. *Judging*

(a) Entries will be assessed by a panel of referees appointed by the

Society's Executive, and their decision shall be final.

(b) Should the referees consider that no entry reaches an adequate standard, the Society reserves the right to withhold its award.

(c) A winning entry shall become the property of the Society whose Executive may, if it considers the essay to be of outstanding merit, publish it in the Society's Journal or News Bulletin.

4. *Award*

Subject only to proviso 3(b), the prize-winners will receive their awards not later than 31 March 1975. The results of the competition will be published in the Society's News Bulletin.

ENTOMOLOGICAL NEWS AROUND AUSTRALIA

WESTERN AUSTRALIA:

Visitors

Dr. D.F. Waterhouse paid a brief visit to Perth in April, during which he addressed the W.A. State Committee of CSIRO on current biological control programmes involving skeleton weed and dung beetles. He also had discussions at the CSIRO laboratories and the Department of Agriculture.

Dr. K.H.L. Key addressed a meeting held at the W.A. Museum in March, to which all local members of the Society and other prominent biologists were invited. In conjunction with the Director of the Museum, Dr. W.D.L. Ride, he is currently preparing a draft for a new edition of the International Code of Zoological Nomenclature, for consideration by the Editorial Committee of the Commission. Dr. Ride first briefly described the operations of the Commission, of which he is President. Dr. Key then outlined the situation regarding Customs Regulation 13A, which restricts the export of insects, ticks and spiders. The meeting continued in the form of a group discussion on these topics, and was prolonged by comment on the latter controversial regulation. Some doubts on the necessity for such restrictions and the effective policing of the regulation were expressed. One research worker made the rather apt comment that he found it much easier to borrow type material from the British Museum in London than from a similar institution in the eastern states of Australia!

Dragonfly Plague

Dragonflies have been observed in exceptionally large numbers, reaching almost plague proportions in the coastal areas north of Perth. Possible improved breeding conditions resulted from the prolonged rainy season of 1973, which followed a period of dry years. Bus drivers have complained of having to make periodic stops to clean windscreens and radiators. An apiarist in New Norcia saw many foraging bees caught by dragonflies as they returned to the hive, and reported that his hive population had been adversely affected. In twenty years of beekeeping he could not recall such large numbers of dragonflies and excessive activity, but a retired apiarist recalls a similar plague in 1916 or 1917. Suggested early methods of control were swatting with tennis racquets, or more effectively shooting them down with .22 rifles using 'rat-shot' cartridges.

S.J. Curry

SOUTH AUSTRALIA:

At the end of March a meeting was arranged through the Society and held at the Waite Institute for members to discuss with Dr. Ken Key the recent regulations controlling the export of insects from Australia. While the restrictions imposed by these regulations appear to remain a contentious issue amongst entomologists, this meeting did give members a chance to obtain at first hand the reasons for the regulations and how they will be administered.

Dr. Peter Miles returned from Zambia at the end of March to resume his former position as Reader in Entomology at the Waite Institute. During his absence from the Waite, Peter was Professor of Zoology at the University of Zambia.

P.G. Allen

TASMANIA:

David de Little gave a seminar in the Faculty of Agriculture, University of Tasmania, about his work in the Surrey Hills area, south of Burnie, on the paropsines defoliating eucalypt regeneration. This area belongs to Associated Forest Holdings, a subsidiary of APM, who have given a grant to the University for this work. David has made very good progress in one season's work.

K.L. Taylor

Unusual insect occurrences in Tasmania

As mentioned in the previous Bulletin (10(1), pp. 7-8), Australian plague locusts, *Chortoicetes terminifera* (Walker), were blown to the north-west tip of Tasmania in late November - early December. On visiting the area in late January I found a small population of active specimens in one area (Tonganah), which were presumably the survivors of the late November - early December flight. These specimens probably travelled from southern New South Wales, a distance of about 600 km.

While walking in the far south-west of Tasmania on 16 February I found a moderate number of recently dead *C. terminifera* at the high tide mark on Prion Beach. Nearby, on the same day, I collected a quite good specimen of the lesser wanderer, *Danaus chrysippus petilia* (Stoll.) while it was apparently feeding on the nectar of the flowers of a native shrub. This butterfly is not known to breed in Tasmania and presumably travelled from Victoria or New South Wales, as did the locusts. From southern New South Wales to Prion Beach is about 900 km.

R.J. Hardy

VICTORIA:

Forests Commission

The Commission has started an 'impact study' of the effects of extensive utilization of pulpwood from the Boola Boola area (Erica Forest District) on insect, bird and vegetational populations.

Studies are also continuing on the families of Coleoptera found in *Pinus radiata* plantations and native eucalypt forests. To date about 41 families of beetles have been found in each location.

National Museum of Victoria

Plans are under way to survey the freshwater insects, particularly stoneflies and caddis flies, of East Gippsland. Mr. Arturs Neboiss would be pleased to hear from any members who have collected in this area, not necessarily freshwater insects.

La Trobe University

Mr. Peter Stahle will not now be heading for the Antarctic (as reported in the last Bulletin), but will instead work with Dr. Danthanarayana on the ecology of harlequin bugs.

Melbourne University, Dept. of Genetics

In April Dr. Ken Key visited the Department and presented the case for legislation to restrict the export of insects. Also present were Prof. Ian Thornton, Drs. Ettershank, French, Martin and New, and Messrs. C. McCubbin and A. Neboiss. Dr. Martin is attending the AGM of the Australian Society of Limnology in Queensland in May, and will raise the matter of the legislation at this meeting.

Monash University

Ms Linda Laos, an Honours student, is studying the behaviour of the dye rhodamine when transmitted in food to Argentine ants.

Ms Penny Gullan, also an Honours student, is carrying out a taxonomic revision of the genus *Anilicus* (Coleoptera: Elateridae) in Australia.

Victorian Plant Research Institute

With the retirement of Dr. Millikan in April, Mr. R.H. Taylor, formerly Principal Plant Pathologist, has been appointed Chief Biologist of the Institute.

Drs. Terry Amos and Peter Williams will shortly be visiting Rydalmere, N.S.W., and Canberra for discussions on stored grain pests.

Mr. Ross Field (Entomologist) recently visited Queensland to collect Lepidoptera.

CSIRO Division of Building Research

Dr. John French, in cooperation with Dr. George Ettershank of Monash University, has started a major campaign towards control of the Argentine ant by means other than persistent insecticides. In a trial involving four streets in Moorabbin the team has laid baits of corned beef, on one side of the street treated with an insect growth regulator, on the other side untreated as a control. The two baits are marked with different fluorescent dyes so that feeding behaviour can be checked in the subsequent interpretation of results. The response of householders has been enthusiastic and helpful, as has the response to an earlier, wider appeal for records of ant infestations. One man brought in 5,000 ants collected in his house, together with his sincere hope that the control project is successful!

The team has also produced a "do-it-yourself" instruction sheet for control of the ant, using mainly pyrethrin sprays and a borax/sugar bait. Supplies of the sheet have been given to all health officers in Melbourne, for distribution to householders with ant infestations. Copies of the sheet may be obtained from Dr. J.R.J. French, CSIRO Division of Building Research, P.O. Box 310, South Melbourne, Vic. 3205.

J.R.J. French

AUSTRALIAN CAPITAL TERRITORY:

Breeding of Netrocoryne repanda repanda (Lepidoptera: Hesperiidae) in the A.C.T.

Netrocoryne repanda repanda C. & R. Felder has been recorded once before in the A.C.T. with the capture of a single specimen on Mt. Coree (1,400 m), 28 km west of Canberra, by E.D. Edwards of CSIRO Division of Entomology. This subspecies is distributed on the coast and tablelands of eastern Australia from Mackay to north-eastern Victoria (Common and Waterhouse 1972).

On Tuggeranong Hill (805 m), about 15 km south of Canberra, I recently captured additional specimens of this butterfly. They were present in reasonable numbers, flying around and often settling on kurrajong and eucalypt trees near the summit. During January I collected six adults and ten very young larvae from mature kurrajong (*Brachychiton populneum*) leaves. The larvae were identified by Dr. I.F.B. Common of CSIRO.

The summit of Tuggeranong Hill is ideal for capturing Lepidoptera, because it is sparsely wooded and isolated from other hills. Here I also collected males of several other species, including three *Pseudodipsas cuprea*, settling on *Casuarina stricta*; five *Ogyris olane ocela*; three *Papilio demoleus sthenelus*; two *Polyura pyrrhus sempronius*; and one *Graphium macleayanum macleayanum*.

Reference:

Common, I.F.B. and Waterhouse, D.F. (1972). - "Butterflies of Australia". Angus and Robertson, Sydney. 498 pp.

Michael Fletcher

NEW SOUTH WALES:

Bill Stewart has arrived in the Department of Zoology, University of New England, from Ontario, Canada. He plans postgraduate work on the taxonomy and ecology of some Australian Odonata under Tony O'Farrell's guidance. Their first 10-day joint field trip coincided with the flooding of the entire north-east of N.S.W., and a consequent extreme dearth of visible Odonata.

E.T. Giles

Extension of a butterfly's range

On 13 April 1974 I succeeded in capturing a perfect male of *Danis hymetus taygetus* (C. & R. Felder) in rainforest at Mt. Keira near Wollongong, N.S.W. At least three other specimens (both sexes) were also observed flying around the tops of tall bushes. References such as Haines (1972) and Common and Waterhouse (1972) state that the species only extends as far south as Sydney, and is usually rare south of Port Stephens.

References:

Common, I.F.B. and Waterhouse, D.F. (1972). - "Butterflies of Australia". Angus and Robertson, Sydney. 498 pp.

Haines, L.C. (1972). - Some interesting butterfly captures made at Bayview, N.S.W. *Aust. Ent. Mag.* 1: 5-6.

N. de Jong

QUEENSLAND:

Visitors to the far north

Pierre and Kitty Pfanner of Switzerland were in Cairns from 6-17 March after visiting Singapore, Malaysia, Taiwan, Hong Kong and Papua New Guinea. They arrived in heavy rain, departed in heavy rain, had heavy rain for most of their stay, and also experienced the three hottest days of the year.

Pierre is interested in large, showy insects, particularly Coleoptera and Lepidoptera. He has an album of colour photographs of Coleoptera, and also some excellent 3-D colour slides of scenery and insects.

I took them on several trips, but Pierre had to restrict his collecting to 3-D photography because of the Customs export regulations. I could not collect on these trips as there was too much water lying around the best areas.

J.G. Brooks

PAPUA NEW GUINEA:

Dr. J. Szent-Ivany returned to Papua New Guinea in mid-February to continue his work on Geometridae. He is spending most of his time at the Wau Ecology Institute in the Morobe District.

Dr. Joe Sedlacek, for some time Officer-in-Charge of the Bishop Museum Field Station, made a visit to Port Moresby in February to work on Coleoptera.

Dr. Barry Gray has resigned from his position as Principal Entomologist with the Department of Forests at Bulolo to take up a research post at the Washington State University. Barry, who has just been awarded a Ph.D., visited the University of Penang en route.

Drs. P. Lehtinen and H. Hippa from the University of Turku, Finland, recently spent several weeks travelling in Papua New Guinea collecting insects and spiders for their museum. Whilst in Port Moresby, I took them collecting in savannah and rainforest habitats at Sogeri and along part of the Kokoda Trail.

Dr. P. Spradbery recently addressed a well attended meeting of the Papua New Guinea Scientific Society with an illustrated talk on the subject of 'Wasps'. Dr. Spradbery's references to the re-queening and overwintering of nests of *Paravespula germanica* in Tasmania and New Zealand stimulated much lively discussion.

A.D. Johnston

NEWS FROM AFFILIATED SOCIETIES

ENTOMOLOGICAL SOCIETY OF QUEENSLAND:

The first meeting of the Society's year was the well-attended Annual General Meeting held on 11 March. Highlights of the evening were the election of the new Council for 1974 under the presidency of Mr. G.B. Monteith, and the delivery by the retiring President, Dr. B.F. Stone, of the Presidential Address entitled "Entomology's Debt to Chemistry". Also available for distribution at the AGM was the long-awaited Jubilee Publication which contains the proceedings of the symposium on "Changing Patterns in Entomology" as well as other items of general and historic interest concerned with the Society's Fiftieth Anniversary in 1973. This volume has been well-received in all quarters, and is reviewed elsewhere in this Bulletin. Copies are available from the Society for $2.50.

The meeting on 8 April was addressed by Mr. Ross Wylie on "Forest Entomology in Papua New Guinea", and provided many fascinating glimpses of "frontier" entomology in a developing nation based on Mr. Wylie's seven years' experience as a forest entomologist there. Future meetings planned are for 13 May on the theme of "Butterflies - our best known insect group", and for 10 June which will be an evening of members' notes and exhibits.

The Society has continued to receive letters from members protesting against the new Insect Export Regulations and these have been published in the Society's News Bulletin. In addition, Council felt the need to clarify earlier actions of the Society regarding export control, and to this end a chronological series of extracts from minutes of Council and General Meetings leading up to the Society's rejection of the legislative proposals made in the 1963 opinion survey was published in the February News Bulletin of the Society.

G.B. Monteith

APPEAL FOR LIVE INSECTS

We would like to start, for research purposes, a culture of *Supella supellectilium*. We should be most grateful to anyone who can send us these cockroaches to enable us to start such a culture.

A. Stock and A.F. O'Farrell
Department of Zoology,
University of New England,
Armidale, N.S.W. 2351.

APPEAL FOR SPECIMENS AND INFORMATION

I am working on the taxonomy and distribution of the genus *Anilicus* (Coleoptera: Elateridae), under the supervision of Dr. George Ettershank, and I would be pleased to hear from any members who have specimens and/or information on these beetles. They are black and orange, the basal half to three-quarters of the elytra being orange. I am particularly interested in data on plant associations, localities and dates of collection of specimens, and if possible I would like to borrow specimens that members may have in their collections.

Ms Penny Gullan,
Department of Zoology,
Monash University,
Clayton, Vic. 3168.

APPEAL FOR NEWS

Search, the journal of ANZAAS, would like to improve its coverage of science news, tending towards the kind of treatment found in the news section of *New Scientist*, and for this the Association seeks the co-operation of specialists who can draw attention to significant developments in their fields. Members who can help in this respect are asked to send news to the Executive Editor, "Search", 157 Gloucester St., Sydney, N.S.W. 2000.

NEW PUBLICATION

Changing Patterns in Entomology. Jubilee Publication of the Entomological Society of Queensland, 1974, 76 pp., obtainable from the E.S.Q. Secretary, C/- Department of Entomology, University of Queensland, St. Lucia, Qld. 4067; $A2.50 per copy.

This well-produced and interesting publication is the proceedings of the ESQ Jubilee Symposium held in September 1973, together with extra historical information about the ESQ. Its papers assess the past, present and future of Australian entomology, with particular reference to Queensland but rarely in a parochial way. There are sections covering the entomologist - his training, and how this matches up to what is required of him; current developments in agricultural and medical/veterinary entomology; and a personal look at trends in the next 50 years by D.S. Kettle.

Perhaps the most interesting section of all is the first, entitled "In Retrospect" - I.M. Mackerras and E.N. Marks on the origins of Queensland's insect fauna and a history of its leading entomologists, and historical surveys of plant and animal entomology by T. Passlow and

R.H. Wharton respectively. These blend fascinating detail with a thoughtful overall appraisal, and I think it would be a poor entomologist who could not be stimulated by the exciting (and human) picture that they combine to give.

Proof-reading has been good, and the whole is well-illustrated, especially with historic photographs of distinguished entomologists. The Society is to be congratulated on producing a wide-ranging and balanced publication, which nobody who is interested in Australian entomology as a whole should be without.

P. Ferrar

A NOTE ON *TEMNOPLECTRON DIVERSICOLLE* BLACKBURN (SCARABAEINAE)

In his recently published monograph (Matthews 1974), Dr. E.G. Matthews notes that *T. diversicolle* is known only from the holotype (in BM(NH) collection) and one paratype (in S.A. Museum), both collected at Cooktown.

Since then this species (det. E.G.M.) has been taken by Alan and Mary Walford-Huggins of Cairns, at Tinaroo Creek Rd., approx. 32 km SE of Mareeba, N.Q., in a large ground fungus, on 17.1.74. The species is now represented in the following Australian collections: ANIC, SAM, J.G. Brooks, A. & M. Walford-Huggins.

Other beetles taken from the same fungus were: Scarabaeidae: *Onthophagus* sp., *Coptodactyla onitoides* Gillet (det. E.G.M.); Staphylinidae: *Mysolius chalcopterus* Oll.

Reference:

Matthews, E.G. (1974). - A revision of the scarabaeine dung beetles of Australia. II. Tribe Scarabaeini. *Aust. J. Zool., Suppl. Ser.* No. 24: 1-211.

J.G. Brooks

COLEOPTERA FROM IRON RANGE

(PART III)

J.G. Brooks

(This is a conclusion of the list of Coleoptera from the Iron Range area, Cape York Peninsula, north Queensland. Parts I and II appeared in Bulletins 9(4): 78-80 and 10(1): 13-15).

Trogossitidae

Leperina sp.
Ancyrona sp.

Cleridae

Pylus pygmaeus Blkb.

Lymexylidae

Hylecoetus australis Er.

Nitidulidae

Amphicossus sp.
Glischrochilus sp.

Passandridae

Hectarthrum heros Fab.

Erotylidae

Episcaphula hercules Lea
Episcaphula nigrofasciatus Blkb.

Coccinellidae

Archaeoneda bicolor Blkb.

Endomychidae

Mycella lineelus Chap.

Colydiidae

Bothrideres mastersi Macl.

Tenebrionidae

Adelodemus excisicollis Cart.
Gonocephalum carpentariae Blkb.
Leiochrinus fulvicollis Westw. (new record for Australia - det. M.E. Bacchus)
Amarygmus striatus Macl.
Chalcopteroides sparsus Blkb.
Encyalesthus sp.

Lagriidae

Lagria cyanea Macl.

Alleculidae

Hybrenia nitida Blkb.
Hybrenia vittata Pasc.
Nocar sp.

Rhipiphoridae

Gen. et sp. indet.

Meloidae

Zonitis dichroa Germ.

Anthicidae

Mecynotarsus kreusleri King
Mecynotarsus ziczac King

Cerambycidae

Tragocerus formosus Pasc.
Potemnemus trimaculatus Lea
Gnoma australis Schw.
Trigonoptera vittata Gestro
Penthea pardalis Newm.
Glaucytes suturalis Pasc.
Rosenbergia lepesmei Gilmour
Tmesisternus yorkensis Fairm.
Platycranium pustulosum Pasc.

Chrysomelidae

Paropsis lownei Baly
Oides sp.
Monolepta medioflava Lea
Paropsisterna sp.
Sastra sp.
Aspidomorpha socia Boh.

Anthribidae

Phloeobius gigas Fab.
Phloeobius spp. indet.

Brenthidae

Gen. et sp. indet.

Curculionidae

Leptopius ferus Pasc.
Peripagis sp.
Mechistocerus moerens Lea
Leptopius maleficus Lea
Orthorrhinus cylindrirostris Fab.
Crossotarsus sp.

GRASSLAND INVERTEBRATES CONFERENCE

The first Australasian Conference on the Ecology of Grassland Invertebrates will be held August 26-30, 1974, at St. Albert's College, The University of New England, Armidale, N.S.W.

Some 40 papers will deal with a wide range of topics for discussion under three main themes.

I. Interactions between plants and invertebrates - their measurement and ecological assessment.

II. Studies in population and community ecology as bases for the management of grassland invertebrates.

III. Management of invertebrates to improve grassland productivity - problems and future prospects.

Further information can be obtained from the Conference Organizer, Dr. R.J. Roberts, Division of Entomology, CSIRO, Private Bag, Armidale, N.S.W. 2350.

BOOK REVIEWS

Thrips. Their Biology, Ecology and Economic Importance
by T. Lewis. Academic Press; 349 pp., 82 text figs.
+ 16 pp. black & white plates. ₤7.80, $US22.

Until now there has been no single account dealing with the biology of Thysanoptera, and it has been difficult for non-specialists to appraise the scattered literature. Dr. Lewis' own work on thrips ecology is well known, and he has now provided a comprehensive synthesis of this topic which will surely remain a standard work on Thysanoptera for many years.

Throughout his account the emphasis is on living thrips, and general structure and taxonomy are outlined in a brief general introduction. The main body of the book is divided into four sections. The first, on Biology, comprises three most informative chapters - on reproduction, development and life-histories; interrelationship with plants; and interrelationships with other animals and pathogens. The author intelligently discusses phenomena that are controversial or in doubt, and his extrapolations suggest leads for future research on thrips biology. The chapter on interrelationships with plants starts with a discussion of feeding behaviour, which is still not fully understood, leads on to symptoms of feeding damage to plants, distribution on plants, virus transmission, and pollination, and presents examples of the sometimes bizarre adaptive features of particular thrips which enable them to live in specialized habitats such as galls. The taro thrips, for instance, is semi-aquatic and possesses a pair of toothed scrapers on the foretibiae, which are used to clean the thrips of algae and snail slime.

Dr. Lewis points out that relationships between thrips and other animals are more complex than those between thrips and plants but have been studied less, and he gives a valuable summary of predatory behaviour and natural enemies of thrips; comprehensive data are provided in appendix.

'Techniques' comprises two chapters - laboratory methods, and sampling. Both are useful summaries of general techniques, which though readily available from other sources are here augmented by a considerable amount of more specialized information, and throughout are appraised directly in their application to thrips.

The third section, on Ecology, contains four chapters. The first, movement, migration and dispersal, follows naturally from the previous chapter on sampling, and the reader will recognise much of the author's classic work on (especially) *Limothrips cerealium* and the effects of windbreaks. The second, survival in unfavourable seasons, is a thoughtful appraisal of overwintering and aestivation of thrips, and their mortality during such periods. Two later chapters deal with 'size and regulation of field populations' and 'habitat , specific diversity and spatial disposition'. They show that causes of long-term changes in thrips abundance are little understood, and the great mortality and broad host ranges of some species are stressed. Communities in both natural and crop habitats are discussed, and an appendix lists national and regional faunal literature on thrips. These chapters lead unobtrusively to the final section of the book, Economic Importance, which comprises chapters on 'thrips as crop pests' and 'beneficial thrips'. Dr. Lewis points out that a small minority of thrips attack cultivated plants, but these have been studied more than other species. He deals with the general principles of thrips as pests, and cultural, chemical and biological methods of control, and an informative appendix summarizes principal insecticides used against thrips. 'Beneficial thrips' outlines the use of predatory thrips in controlling pest populations, and the use of phytophagous species for weed control.

There follows a section of 16 black and white plates, mainly very clear, but a few of the photographs showing galls and feeding symptoms are a little small for unambiguous interpretation. A bibliography of some 660 titles is followed by a series of appendices (some mentioned above, others dealing with methods of preserving and mounting thrips, species found on different types of vegetation, and a detailed list of all species mentioned in the text), and author and general indices.

The book is well produced and bound. Proof-reading has been competent - of the few spelling mistakes noticed, only two affect scientific names (p. 35 'phealothripids' for 'phlaeothripids', and p. 188 '*T. augusticeps*' for '*T. angusticeps*'). The only other error noted that could create confusion is on p. 127, where von Karmon's constant is upper case in a legend to a formula, and lower case in the actual formula.

Both author and publishers are to be congratulated on a valuable and eminently readable book, indispensable to thrips workers but clearly also of considerable interest to all entomologists, both for its solid body of information and for the questions it raises. In conjunction with current taxonomic work by L.A. Mound and his colleagues, Dr. Lewis'sbook should stimulate interesting and exciting work on the ecology of some of our more unusual endemic Thysanoptera.

T.R. New

Trichoptera by H. Malicky.
Walter de Gruyter, Belin & New York, Sept. 1973; in the series "Handbuch der Zoologie" 4(2) 2/29; 114 pp., 96 line drawings. German text. Price DM 130 (about $A37).

During the last two or three decades the order Trichoptera (caddis flies) has attracted the interest of many scientists, not only to work on their taxonomy but also to explore more deeply their ecology, morphology and other aspects. Now for the first time in many years a single comprehensive volume has been published on all these aspects.

The first three chapters are brief, and describe the history of the study of caddis flies, the main characteristics of the order, and its palaeontology and evolution. The systematic arrangement of families closely follows that suggested by Ross (1967, *A. Rev. Ent.* 12: 169-206), with only a few modifications: three families have been added (Arctopsychidae, Ecnomidae and Tasimiidae), and two family names changed (Rhynchopsychidae to Kokiriidae, and Thremmidae to Thremmatidae). The family descriptions are concise, giving only the most important characters; all subfamilies are listed; reference is made to the important genera, and approximate numbers of species in each family are also indicated. The chapter on distribution analyses particularly the zoogeography of these insects.

The chapter on ecology is in three parts, on habitats, rhythmics and parasites. The requirements of adults, pupae and larvae are discussed and well-illustrated with examples, diagrams and numerous references. The details of day/night changes and seasonal changes indicate the diversity of conditions under which development takes place.

The largest chapter is on morphology, occupying 38 pages. Under 11 subtitles the larvae, pupae and adults are described and their functions explained. The head structure of the adult is figured in great detail, but it would have been of great value if the larval and pupal heads had been treated as thoroughly. One other criticism is of the very brief discussion on types of genitalia. As these are most important to taxonomy more detail would have been very helpful, particularly for the female. Other anatomical details and physiology are treated more fully. Larvae are placed into five groups according to the method of case or retreat construction, with each discussed in considerable detail.

The text concludes with a chapter on development, describing mating behaviour, egg-laying, parthenogenesis, embryology and post-embryonal development, and a detailed index of scientific names and list of 438 references completes the volume. As the main title of the series indicates, this is a handbook and as such it provides basic information on every aspect of the study of Trichoptera.

A. Neboiss

The South Asiatic Olethreutini (Lepidoptera, Tortricidae)
by A. Diakonoff. Zoölogische Monographieën van het Rijksmuseum van Natuurlijke Historie, No. 1, Leiden: E.J. Brill, 700 pp., 15 plates (1 colour), 732 figs., 1973, bound.
ISBN 90 04 03713 6. Price 208 Dutch guilders.

This impressive work is the first extensive taxonomic treatment of the Oriental representatives of the tortricid tribe Olethreutini, a large and diverse group of small moths which includes several pests of tropical crop plants and ornamentals. Although the author has not seriously attempted to deal with the non-Asiatic fauna, some of the species occurring in south-east Asia also occur in New Guinea, Australia and the south-west Pacific. The olethreutine fauna of these areas is closely related with many genera in common, and this work is therefore of basic significance to anyone working on the taxonomy of the Australian or Papuan Tortricidae.

The author deals with the Olethreutini in 12 subtribes, 94 genera and 430 species, of which 11 subtribes, 39 genera and 176 species are described as new. Most of the specimens studied were from the British Museum (Natural History) and the Leiden Museum. Keys to the subtribes, genera and species are included and the genitalia of both sexes, when available, are figured. The author has had a life-time of experience in the taxonomy of Tortricidae, especially of south-east Asia and New Guinea, and this new work will long remain an indispensible reference for all serious students of the family. The publishers are to be congratulated on its uniformly high standard of presentation, the quality of the paper and the excellent reproductions of the fine line drawings.

To Australian workers it is disappointing that the author did not include in this study the extensive Australian and Papuan material from the ANIC, especially since he has described new species from Australia, New Guinea and the Solomons, at times based on unique specimens. A few minor errors have been noticed in the text: Lower's species *amoeboea* has been misspelled (pp. 238-241) following an error of Meyrick, and Lower's species *drymoptila* has been attributed to Meyrick in the caption to Fig. 581 (p. 655). Several references in the Introduction (pp. ix-xi) have been omitted from the extensive list of references (pp. 519-524). Although Lower's original description of *elaeodes* (p. 62) was based on two specimens from Cooktown and Cairns, and Meyrick stated that he had re-described the species from the type, it is unlikely that the specimen from Cairns in Meyrick's collection was in fact a syntype and therefore eligible for selection as the lectotype. Meyrick's collection contained many specimens from Cairns and Kuranda originating from F.P. Dodd and, although Meyrick apparently borrowed the 'type' from Lower, it is unlikely that he failed to return it. Both syntypes should be in the South Australian Museum, where most of Lower's types are deposited. To avoid confusion with the town of Geraldton, Western Australia, especially for overseas workers, it should perhaps be pointed out that the place name Geraldton 'near Cairns' (p. 458) has long since been changed to Innisfail. It is 72 km SSE of Cairns, Queensland.

I.F.B. Common

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